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RADIO FREQUENCY ELECTROMAGNETIC FIELDS EXPOSURE REPORT

Prepared for County of San Diego

Site: East County Regional Center

Located at:

250East Main Street
El Cajon, CA 92020
Latitude: 32.7967° / Longitude: -116.959°

COMPLIANT
WITH FCC RF SAFETY GUIDELINES

EXECUTIVE SUMMARY

Dtech Communications, LLC ("Dtech") has been retained by County of San Diego to determine whether its wireless communications facility complies with the Federal Communications Commission ("FCC") Radio Frequency ("RF") Safety Guidelines. This report contains an on-site, measurement analysis of the Electromagnetic Fields ("EMF") exposure resulting from the facility. The table below summarizes the result at a glance:

Table 1: EMF Facility Summary

Site Address	250 E Main St. El Cajon, CA 92020
Access to Antennas Locked	Yes
RF Sign(s) @ Access Point(s)	Yes
Max EMF Level on Roof, Near Antennas	11.38% Occupational
Max EMF Level on Ground	0.60% General Population
FCC Compliant	Yes

Table 2: EMF Carrier Summary

Wireless Carrier	FCC Compliant	*RF Sign(s)/Barriers @ Antennas*
AT&T-Cingular	No	Notice, Information Sign 2
T-Mobile	Yes	Information
Sprint	Yes	None
Nextel	Yes	Notice
Cricket	Yes	None
Verizon	Yes	None
Other	Yes	None

BACKGROUND

Dtech uses the FCC's guidelines described in detail in Office of Engineering & Technology, Bulletin No. 65 ("OET-65") "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Radiation". Table 2 below summarizes the current Maximum Permissible Exposure ("MPE") safety limits classified into two groups: General population and Occupational.

Table 3: FCC MPE Limits (from OET-65)

Frequency (MHz)	**General Population/ Uncontrolled MPE** (mW/cm^2)	**Averaging Time** (minutes)	**Occupational/ Controlled MPE** (mW/cm^2)	**Averaging Time** (minutes)
30-300	.2	30	1.0	6
300-1500	Frequency (MHz)/1500 (0.2 – 1.0)	30	Frequency (MHz)/300 (1.0 – 5.0)	6
1500-100,000	1.0	30	5.0	6

General population/uncontrolled limits apply in situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment, and may not be fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment, and those persons have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

It is important to understand that the FCC guidelines specify *exposure* limits not *emission* limits. For a transmitting facility to be out of compliance with the FCC's RF safety guidelines an area or areas where levels exceed the MPE limits must, first of all, be in some way *accessible* to the public or to workers. When accessibility to an area where excessive levels is appropriately restricted, the facility or operation can certify that it complies with the FCC requirements.

SITE DESCRIPTION

The wireless telecommunication facility is located at 250 E. Main St. , El Cajon**,** CA 92020. The facility consists of 8 wireless carriers or operators. The antennas are typically grouped into sectors pointing in different direction to achieve the desired areas of coverage. The table below summarizes the existing carriers located at this facility:

Table 4: Site technical specifications

	AT&T-Cingular	*T-Mobile*	*Sprint*
Num of sectors	3	4	4
Sector Orientation (°T)	35/235/330	30/150/255/330	90/130/225/330
Num of Antenna per sector	4	2	1
Antenna Radiation Center Height Above Ground/Roof **(feet)**	150/ 8 (all sectors)	140/ 2 (all sectors)	140/ 2 (all sectors)
Antenna Type	4' panel (all sectors)	4' panel (all sectors)	4' panel (all sectors)

Nextel	*Cricket*	*Verizon*	*Other*
3	6	3	5
30/240/330	30/45/150/210/ 270/330	30/150/230	30/130/150/330 Omni-directional
2	1	3	1
150/ 8 (all sectors)	140/ 2 (all sectors)	140/ 2 (all sectors)	160/ 8 (all sectors)
4' panel (all sectors)	4' panel (all sectors)	4' panel (all sectors)	Omni & microwave (all sectors)

Figure 1: Site map

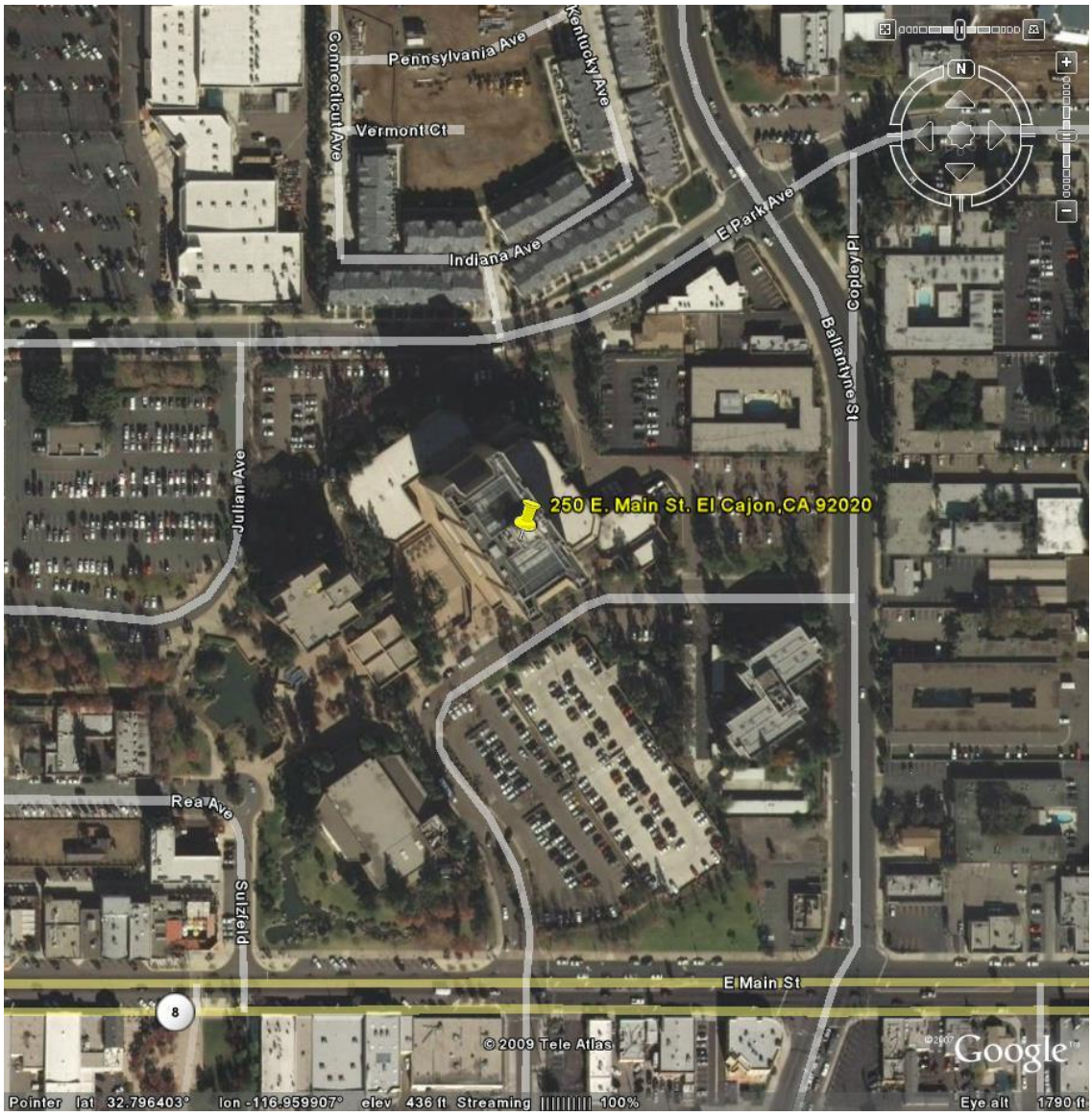


Figure 2: Site Diagram (Not to scale)

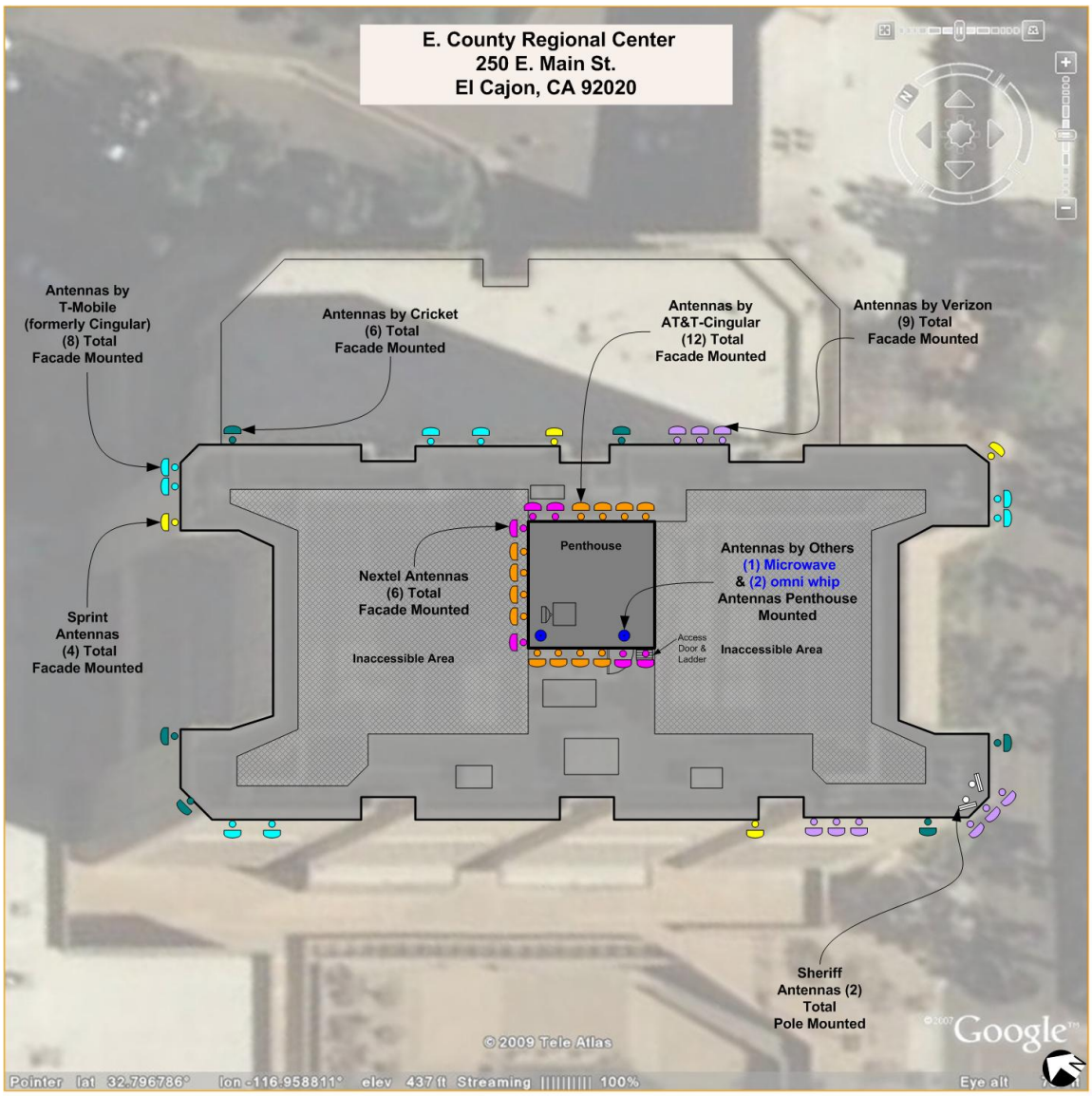


Figure 3: Site photographs

East Count Regional Center General site view

East County Regional Center General site view

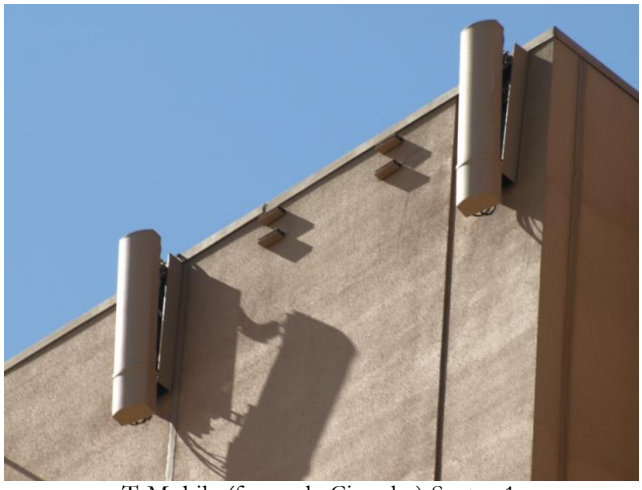
East Count Regional Center Access point

East Count Regional Center Access sign(s)

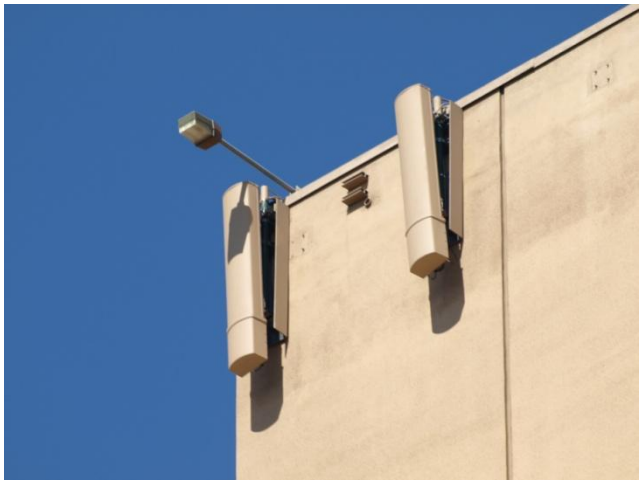
AT&T-Cingular Sector 1 (Information Sign 2, Notice Sign)

AT&T-Cingular Sector 2

AT&T-Cingular Sector 3 (Information Sign 2, Notice Sign)



T-Mobile (formerly Cingular) Sector 1



T-Mobile (formerly Cingular) Sector 2

T-Mobile (formerly Cingular) Sector 3

T-Mobile (formerly Cingular) (2) & Sprint (1) Sector 4

Cricket Sector 1

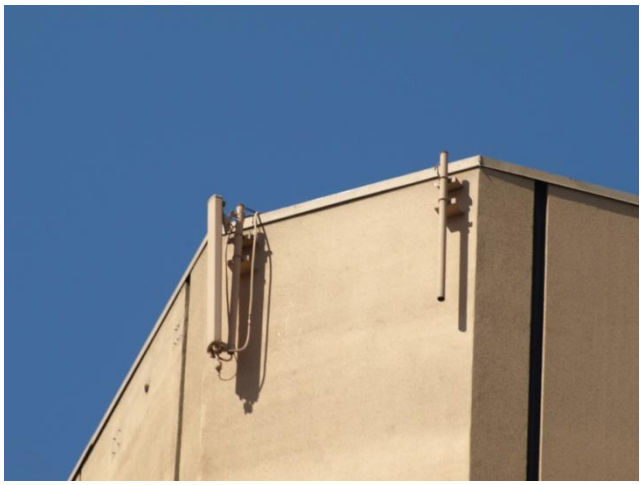
Cricket Sector 2

Cricket Sector 3

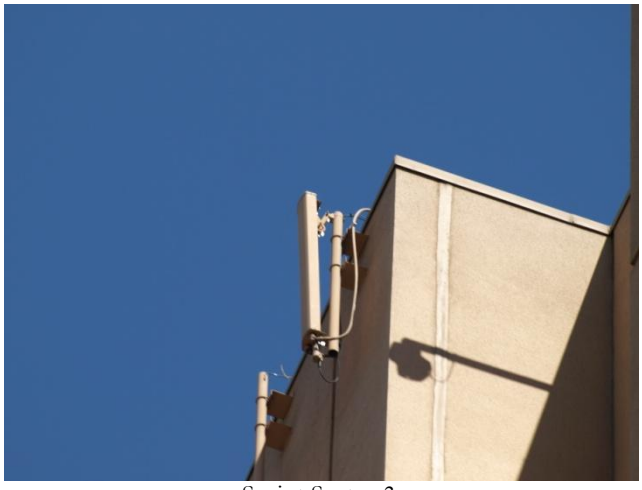
Cricket Sector 4

Cricket Sectors 5&6

Sprint Sector 1



Sprint Sector 2



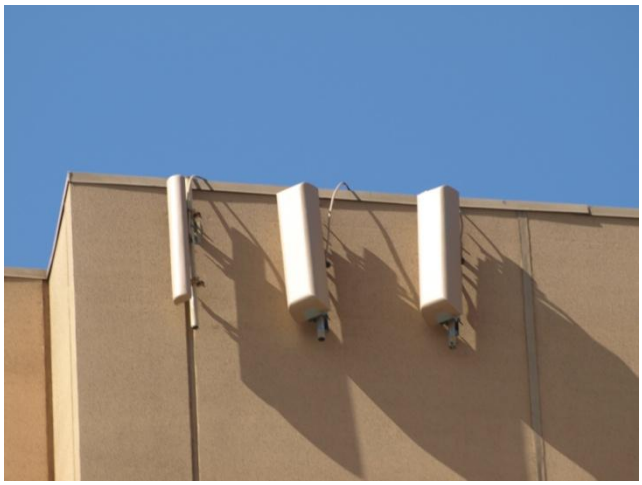
Sprint Sector 3

T-Mobile (formerly Cingular) (2) & Sprint (1) Sector 4

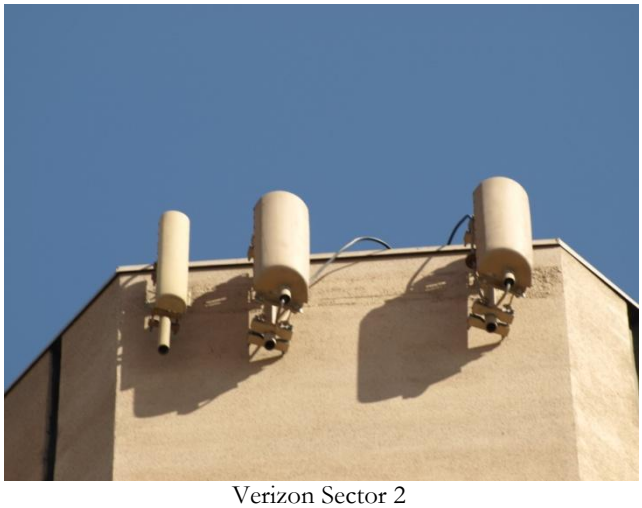
Nextel Sector 1 (Notice Sign)

Nextel Sector 2

Nextel Sector 3 (Notice Sign)



Verizon Sector 1



Verizon Sector 2

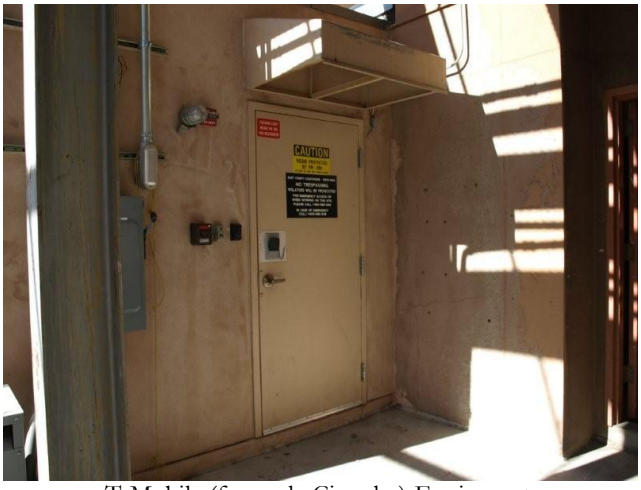
Verizon Sector 3

Other Omni whip

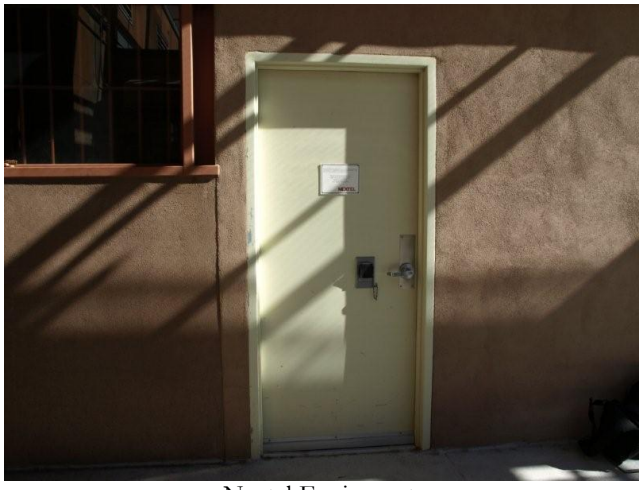
Sheriff All sectors

Other microwave

Other All sectors



T-Mobile (formerly Cingular) Equipment


Nextel Equipment


Cricket Equipment


Sprint Equipment


Verizon Equipment


Other Equipment

FIELD MEASUREMENT

Field measurements were conducted at the subject site on 3/18/2010 9:00 AM by Yun-Yun Lee, Dtech Field Engineer and again on 4/20/2010 at 1:30 PM by Craig VanDyke. The Narda meter, model NBM-520 with EA 5091 Probe was used to conduct the measurements. This device is designed to measure frequencies between 300kHz and 50Ghz, well within the SMR, Cellular, and PCS frequency ranges (most major wireless operators). Therefore, the measured level is a cumulative RF energy resulting from all transmitters within the frequency ranges of the probe. The probe itself is frequency shaped and can automatically weigh each field contribution based on frequency. The output is given in percentage of the FCC's MPE Limits. A level higher than 100% is out of compliance.

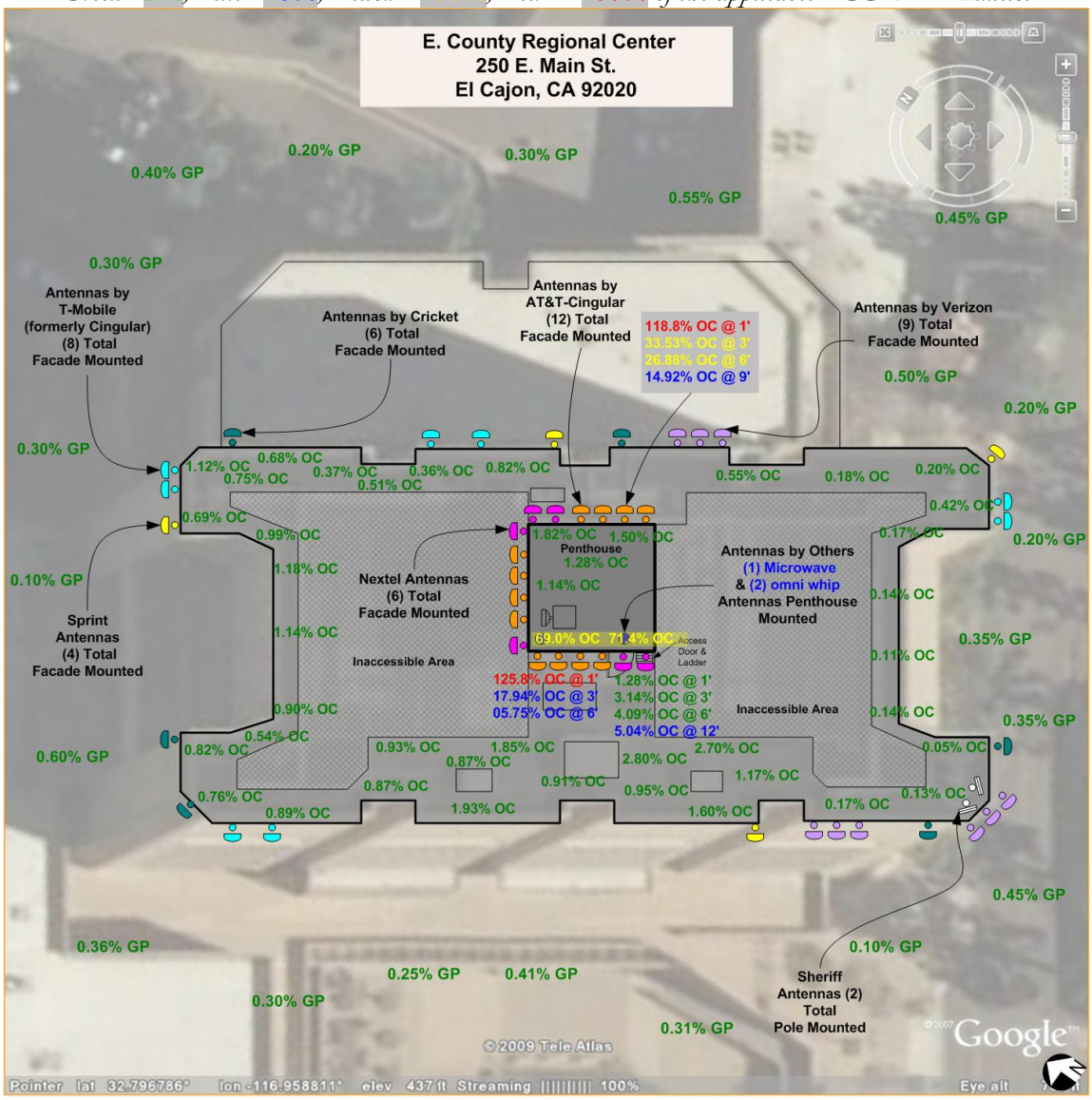
Spatial averaging measurement technique was used. An area between 2 and 6 feet, approximately the size of an average human, is scanned in single passes from top to bottom in multiple planes. When possible, measurements were made at very close proximity to the antennas and inside the main beam where most of the energy is emitted. The maximum levels (max-hold) were recorded.

Field Measurement Result 18 March 2010

Below are the locations where measurements were conducted and their respective recorded levels given in percentages of the applicable FCC's MPE Limits. Again, a level higher than 100% is out of compliance.

Figure 4: Result Diagram: Roof Level (Not to scale)

Green<5%, Blue<20%, Yellow<100%, Red=>100% of the applicable FCC MPE Limits.



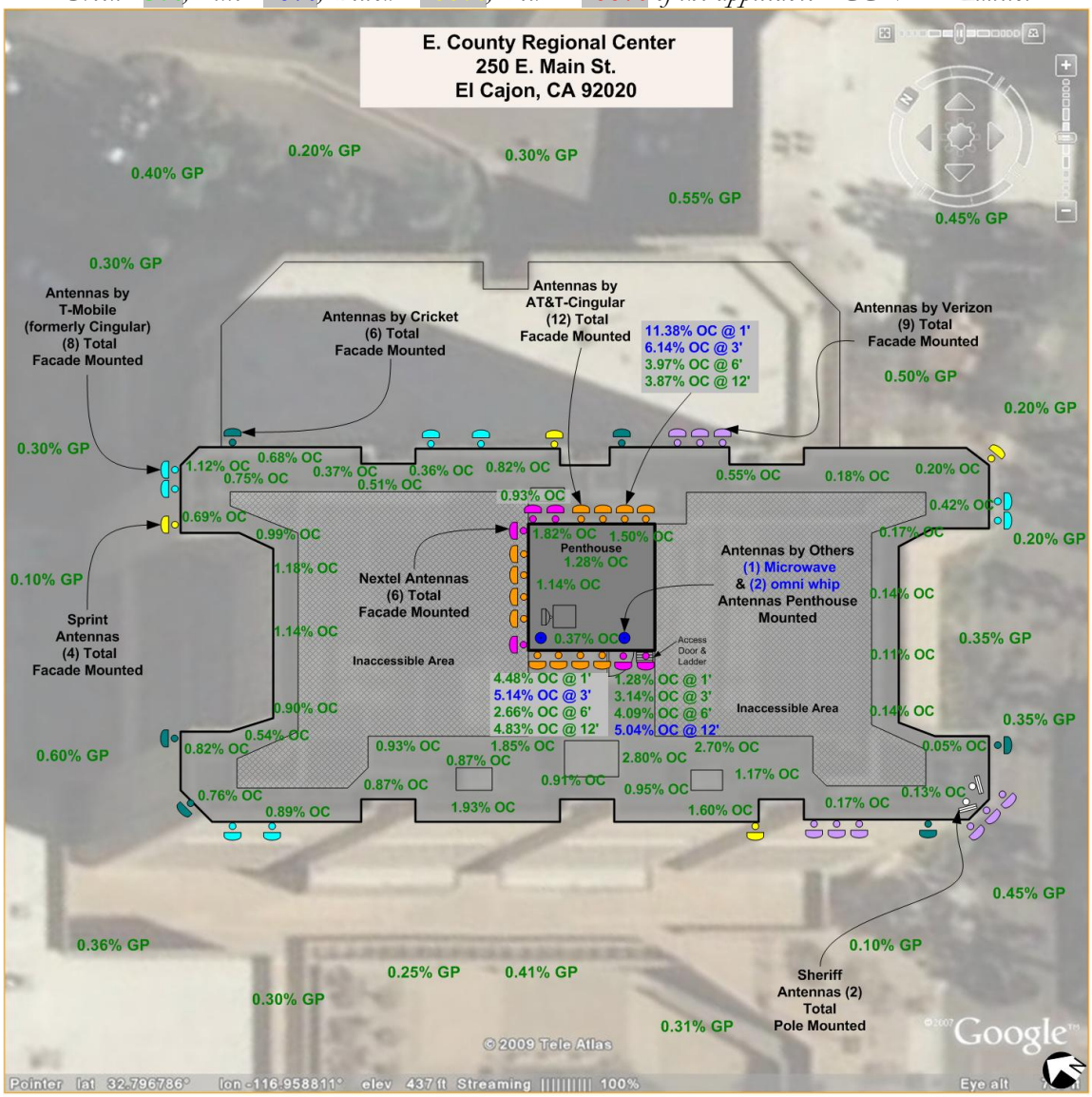
On the main roof, the highest exposure level was measured at 125.8% of the applicable FCC's Occupational MPE Limits near AT&T's antennas. On the ground, the highest level was measured at 0.60% of the General Population MPE Limits.

Field Measurement Result 20 April 2010

Below are the locations where measurements were conducted and their respective recorded levels given in percentages of the applicable FCC's MPE Limits. Again, a level higher than 100% is out of compliance.

Figure 5: Result Diagram: Roof Level (Not to scale)

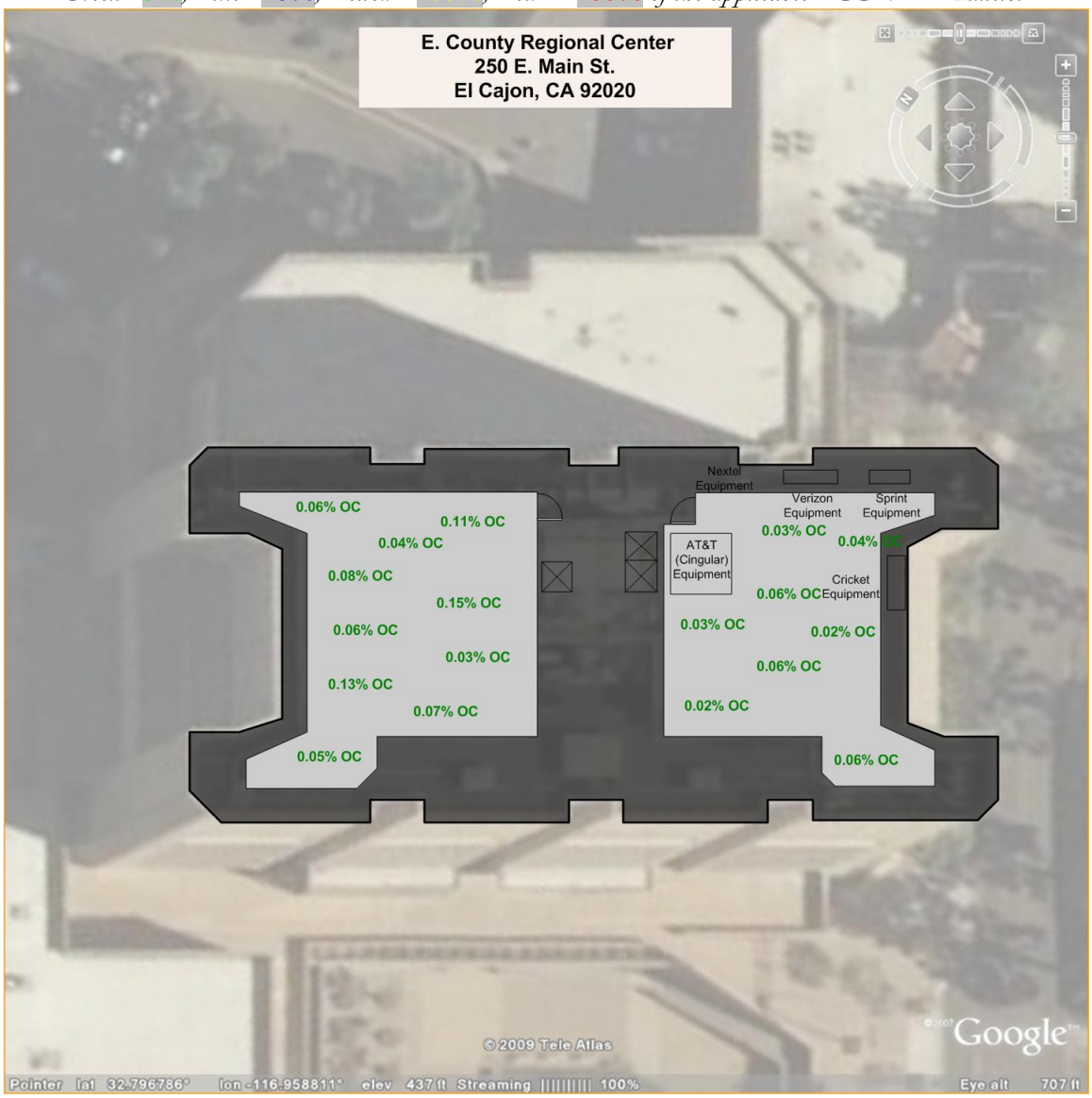
Green<5%, Blue<20%, Yellow<100%, Red=>100% of the applicable FCC MPE Limits.



On the main roof, the highest exposure level was measured at 11.38% of the applicable FCC's Occupational MPE Limits near AT&T's antennas. On the ground, the highest level was measured at 0.60% of the General Population MPE Limits.

Figure 6: Result Diagram: Top Level (Not to scale)

Green<5%, Blue<20%, Yellow<100%, Red=>100% of the applicable FCC MPE Limits.



On the top level, the highest exposure level was measured at 0.13% of the applicable FCC's Occupational MPE Limits.

RECOMMENDATION(S)

On-site measurements at the facility resulted in exposure levels below the applicable FCC's MPE Limits. There are appropriate RF advisory signs posted at the roof access point(s) and/or near the antennas to establish awareness for potential RF exposure. Further actions are not required.

Individuals entering the RF Controlled area (rooftop) should obey all posted signs and also be made aware of the potential 'HotZones' or overexposed areas. These areas are generally directly in front of the antennas and are typically in the air, not readily accessible without a ladder, lift, suspended platforms, etc. Individuals needing to work inside the potential HotZones for a prolonged period of time (as opposed to just passing through) must contact the landlord or appropriate carrier prior to commencing work.

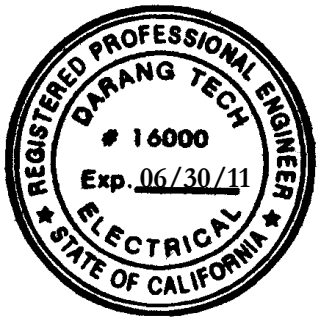
CONCLUSION

Based on the above results, analysis and recommendation(s), it is the undersigned's professional opinion that this telecommunication facility complies with the FCC's RF Safety Guidelines.

CERTIFICATION

This report has been prepared by or under the direction of the following Registered Professional Engineer: Darang Tech, holding California registration number 16000, with renewal date of 06/30/11.

Darang Tech, P.E.



References

[1] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Second Memorandum Opinion and Order, ET Docket 93-62, adopted August 25, 1997.

[2] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Report and Order, ET Docket 93-62, FCC 96-326, adopted August 1, 1996. Federal Register 41006 (1996).

[3] *Guidelines for Evaluating the Environmental Effects of Radio frequency Radiation*, Notice of Proposed Rulemaking, ET Docket 93-62, 8 FCC Rcd 2849 (1993).

[4] The Telecommunication Act of 1996, 47 U.S.C. Section 332 (c)(7)(B)(iv).

[5] www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/
www.fcc.gov/oet/rfsafety